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27 December 1965

**Subject: Coordination of Life Sciences R.D.T.&E. Activities
Between OSA and ORD.**

**To: Chiefs, OSA and ORD.
Action copies: Responsible Staff Personnel.**

A. General Considerations

1. The OSA does not have a Life Sciences Research, Development, Test and Evaluation Program in the traditional and strict sense of the word since its operational objectives do not specify, per se, discrete Life Sciences requirements. Instead, the major projects initiated in OSA are directed toward the achievement of an advanced operational capability within a rather critical and narrow future time frame. In those projects which contain a human operator responsible for a vital on-line function in the System control loop, then adequate considerations must be given to, and provisions made for, his viability performance and survival. Supporting Life Sciences activities therefore become primarily directed efforts toward a specific systems requirement or problem, using wherever possible, existing knowledge and available technology for successful application thereto.

2. In order to meet this heavy responsibility for achieving a National operational advantage within a specific time period, OSA must of necessity concentrate its limited personnel (and funds) upon field operations. Personnel available for so-called full time, overall R & D activities are severely limited and there is no individual available to plan, direct and manage a Life Sciences R & D program. To overcome this deficiency OSA has made full and excellent use of its Industrial, Academic and Government collaborators, co-workers and consultants, depending heavily upon a few highly competent, key individuals to make single point and final decisions. In the light of past significant and major contributions to the Nation's stake at the international bargaining tables, it would appear that OSA's organization and modus operandi has much to commend it, however unconventional it may appear to the purists.

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B. Past and Current Life Sciences Coordination Activities.

1. As pointed out above, the basic working premise underlying OSA's efforts is to add a proven and advanced operational capability to the National Inventory, using only existing knowledge and technology uniquely integrated into a new systems concept. For this reason, formal documentation of its plans and implementation activities do not exist in traditional format used by R & D agencies. The orientation is pointed entirely (and properly) toward the operational realization and utilization with the supporting evidence being found in the documented results of the operational readiness activities and inspections. Thus, only the end results and products of Life Sciences R.D.T.&E. efforts are found in the official OSA documents and even these are not always identified as such. Of fundamental and primary importance is that the advanced operational system is brought on-line within the time required and the details of how each subsystem (including the human operator) met its individual operational requirements is somewhat academic, albeit of some potential historical value.

2. The lack of formalized Life Sciences R & D documentation within OSA activities has not as yet posed any particular hardship on the end results. In addition to the access to governmental Life Sciences R & D laboratories and personnel, OSA enjoys a benevolent partnership with an Academic and Industrial complex representing all fronts of science and technology. Competition in the Life Sciences field being what it is today - with both DOD and NASA holding ample largesse for the winners - practically guarantees an expert and current industrial cognizance of significant progress and advances in the overall field. Therefore many new approaches are successfully followed to operational realization with little evidence in the record of the ideation and ingenuity involved. It is perhaps this one factor of industrial cognizance of existing Life Sciences research and development activities which has been most important in attaining the required Life Sciences objectives.

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3. Since the re-organization of ORD with [REDACTED] managing the Life Sciences portion of the total R & D program, we (OSA) have been holding periodic informal coordinating conferences with him and his staff. These particular exercises have proven extremely valuable to our OSA Life Sciences efforts and end objectives. On several occasions [REDACTED] has expanded the scope of existing R & D projects under his cognizance to more directly focus on a current unresolved OSA problem. On other occasions he has initiated and funded R & D projects at our specific request in order to fill in noticeable gaps in our own program.

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C. Future Plans

1. The past history of OSA projects and resultant field operations amply attests the fact that practically no advanced system capability ever becomes obsolete or dead-ended. Constant improvements are made from newly discovered knowledge and technology to further augment the mission envelope of the total system and these must be equally paced by improvements in the performance and survivability of the human component. In addition to these extrapolated systems improvements, there are numerous completely new operational concepts which are being evaluated by the OSA R & D staff. In some of these latter cases, the decision to proceed into a feasibility and preliminary design study might partially rest upon our ability to give reasonable assurance regarding the integrity of the human component. Therefore, if we in the Life Sciences are to give timely and valid answers to problem areas presented in both the above cases, it is obviously mandatory that we maintain a constant vigilance for significant advances and potential breakthroughs in our own field.

2. These aforementioned objectives can be better met by expanding the cognizance of OSA on these significant advances through a more formalized and scheduled use of [REDACTED] Life Sciences staff in ORD. In order to properly utilize these additional scientific and technological overseers, it is necessary to provide them with information of greater depth and detail on OSA's Life Sciences requirements and programs than can be communicated during an informal oral discussion. Therefore,

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through mutual agreement between the Ch [redacted]
with [redacted] and staff, the following plan of action
will be implemented in 1966:

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- a. Initial written documentation on current OSA Life Sciences activities will be presented to [redacted] and staff on 28 December 1965. At this meeting, those projects which require further assistance from ORD Life Sciences will be noted for more detailed discussion and/or consideration.
- b. On or about 17 January 1966 a coordinating conference will be held between OSA and ORD during which time the above-mentioned Life Sciences requirements and problem areas will be discussed and evaluated in detail. The product of this coordination exercise will be the initiation of new areas of Life Sciences R.D.T.&E activities, through mutual concurrence, toward quicker and better resolution of the problem areas. Further, it has been agreed that future similar exercises will be scheduled at no greater intervals than once every six months.

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